

FIG. 1

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program0.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types
<!ENTITY % formats

"audio|video|image|audiovideo|audioimage">
"(mpeg1|mpeg2)">

<!ELEMENT contents }201
<!ATTLIST contents tite CDATA #REQUIRED> }202
<!ELEMENT par (mediaObject+)> }203
<!ELEMENT mediaObject (segment+)> }204 "audiovideo" }205
<!ATTLIST mediaObject type %types; %formats; #REQUIRED }206
format CDATA #REQUIRED> }207
src CDATA #REQUIRED }208
EMPTY>
<!ELEMENT segment CDATA #REQUIRED }208
<!ATTLIST segment start CDATA #REQUIRED>
end CDATA #REQUIRED>

```

FIG. 2A

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version ="1.0"?>
<!DOCTYPE contents SYSTEM "http://mserv.com/DTD/program0.dtd">

<contents title="Movie etc.">
<mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
<segment start="00:00:00" end="00:01:00"/>
<segment start="00:01:00" end="00:02:00"/>
<segment start="00:03:00" end="00:04:00"/>
<segment start="00:04:00" end="00:05:00"/>
</mediaObject>
</contents>

```

FIG. 2B

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program0.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00"/>
      <segment start="00:01:00"end="00:02:00"/>
      <segment start="00:03:00"end="00:04:00"/>
      <segment start="00:04:00"end="00:05:00"/>
    </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00"end="00:01:00"/>
      <segment start="00:01:00"end="00:02:00"/>
      <segment start="00:03:00"end="00:04:00"/>
      <segment start="00:04:00"end="00:05:00"/>
    </mediaObject>
  </par>
</contents>

```

FIG. 3

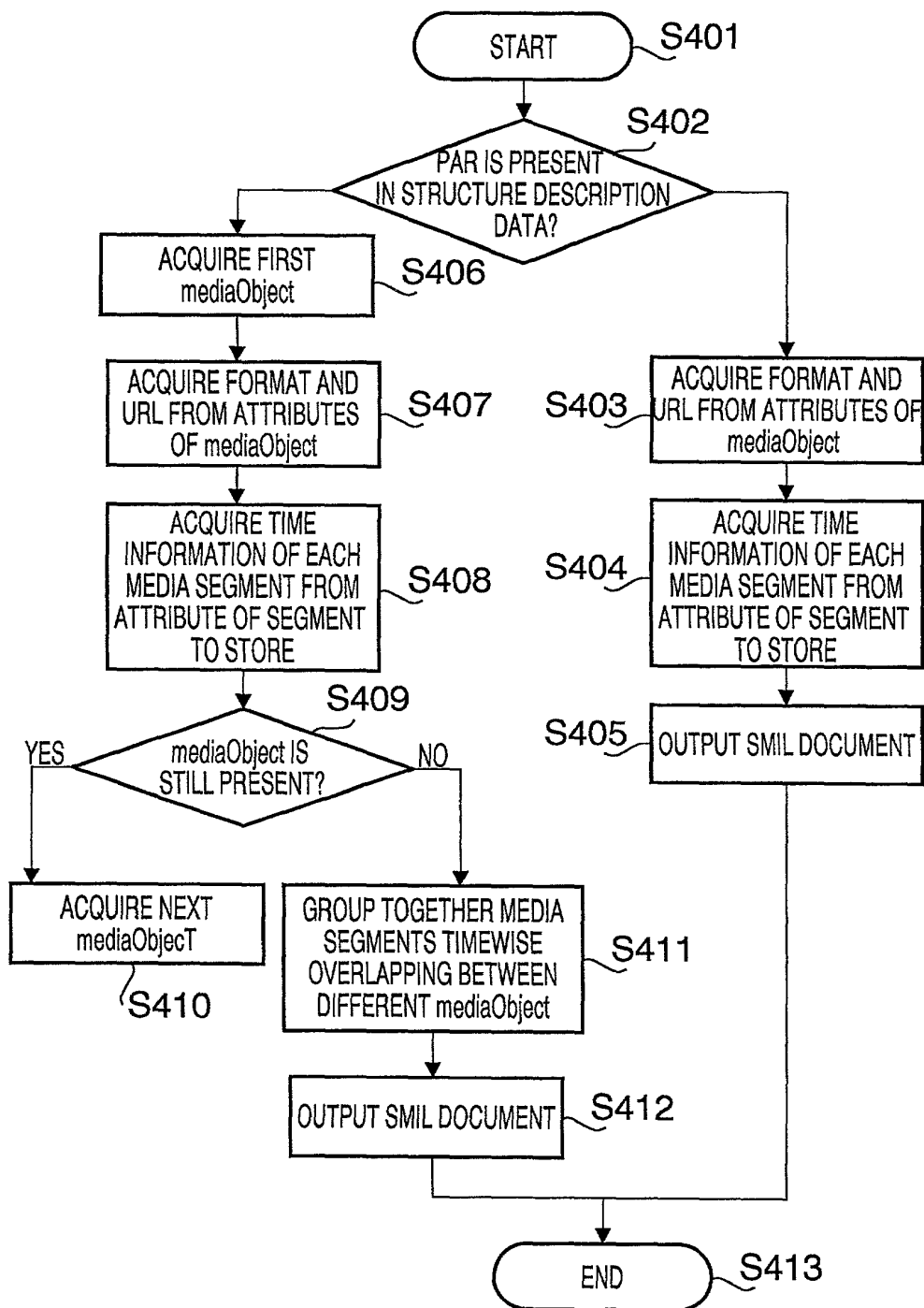


FIG. 4

09876543210

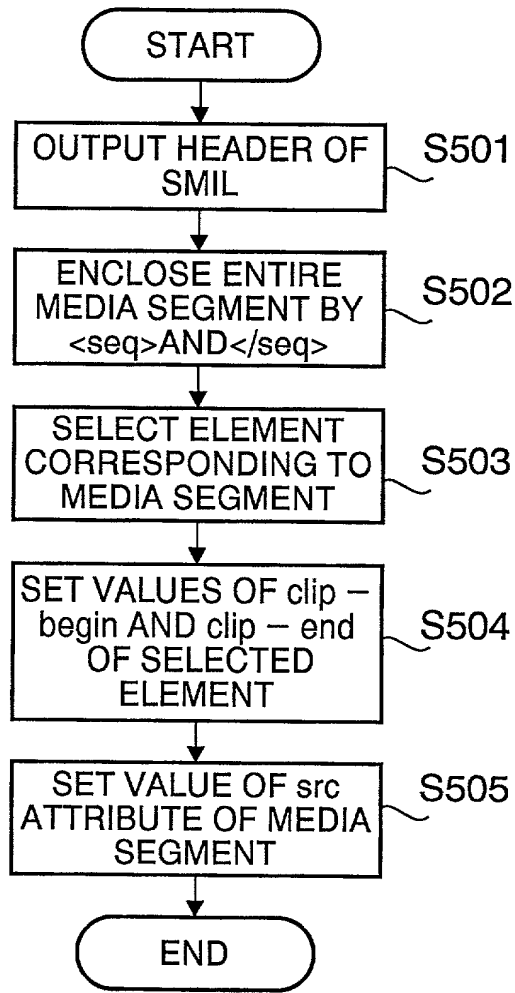


FIG. 5

```
<smil>
  <head>
    [HEADER] }601
  </head>
  <body>
    [BODY] }602
  </body>
</smil>
```

FIG. 6

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```
<smil>
<body>
<seq>
  <ref clip-begin="smpte=00:00:00" clip-end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0.mpg"/>
  <ref clip-begin="smpte=00:01:00" clip-end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0.mpg"/>
  <ref clip-begin="smpte=00:03:00" clip-end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0.mpg"/>
  <ref clip-begin="smpte=00:04:00" clip-end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0.mpg"/>
</seq>
</body>
</smil>
```

FIG. 7

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```
<smil>
<body>
  <seq>
    <ref clip-begin="smpte=00:00:00" clip-end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0.mpg"/>
    <ref clip-begin="smpte=00:03:00" clip-end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0.mpg"/>
  </seq>
</body>
</smil>
```

FIG. 8

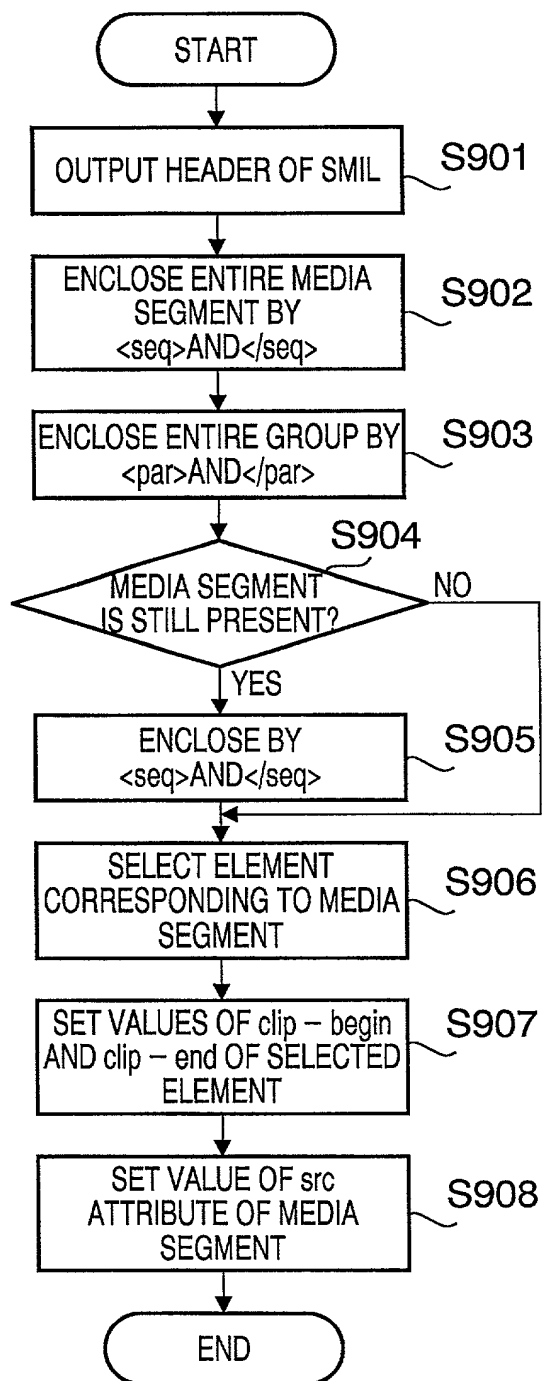


FIG. 9



# EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
<par>
<video clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</seq>
</body>
</smil>

```

FIG. 10

# EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
<par>
<video clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:03:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:03:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</seq>
</body>
</smil>

```

FIG. 11

# EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
<par>
<video clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio begin="10s" clip- begin="smpte=00:00:10" clip- end="smpte=00:00:40" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio begin="15s" clip- begin="smpte=00:04:15" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</seq>
</body>
</smil>

```

FIG. 12

# EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program1.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2|gif|jpeg)">

<!ELEMENT contents    (par|mediaObject)+> }1301
<!ATTLIST contents    title CDATA #REQUIRED> }1302
<!ELEMENT par         (mediaObject+)> }1303
<!ELEMENT mediaObject (segment+)> }1304
<!ATTLIST mediaObject type      %types;      "audiovideo" }1305
                        format    %formats;    #REQUIRED }1306
                        src        CDATA        #REQUIRED> }1307

<!ELEMENT segment     (alt*)> }1309
<!ATTLIST segment     start     CDATA        #REQUIRED }1308
                        end       CDATA        #REQUIRED>

<!ELEMENT alt         (pos?)>
<!ATTLIST alt         type      %types;      #REQUIRED
                        format    %formats;    #REQUIRED
                        src        CDATA        #REQUIRED> }1310

<!ELEMENT pos         EMPTY>
<!ATTLIST pos         start     CDATA        #REQUIRED
                        end       CDATA        #REQUIRED>

```

FIG. 13

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program1.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:00:00"end="00:01:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:00:00"end="00:01:00"/>
        </alt>
      </segment>
    <segment start="00:01:00"end="00:02:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:01:00"end="00:01:30"/>
        </alt>
      </segment>
    <segment start="00:03:00"end="00:04:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
        </alt>
      </segment>
    <segment start="00:04:00"end="00:05:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:04:00"end="00:05:00"/>
        </alt>
      </segment>
    </mediaObject>
  </contents>
```

FIG. 14

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
          </alt>
        </segment>
        <segment start="00:01:00"end="00:02:00">
          <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
            </alt>
          </segment>
          <segment start="00:03:00"end="00:04:00">
            <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
              </alt>
            </segment>
            <segment start="00:04:00"end="00:05:00">
              <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
                </alt>
              </segment>
            </mediaObject>
            <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
              <segment start="00:00:00"end="00:01:00">
                <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                  <pos start="00:00:00"end="00:01:00"/>
                </alt>
              </segment>
              <segment start="00:01:00"end="00:02:00">
                <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                  <pos start="00:01:00"end="00:01:30"/>
                </alt>
              </segment>
              <segment start="00:03:00"end="00:04:00">
                <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                  <pos start="00:03:00"end="00:03:30"/>
                </alt>
              </segment>
              <segment start="00:04:00"end="00:05:00">
                <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                  <pos start="00:04:00"end="00:05:00"/>
                </alt>
              </segment>
            </mediaObject>
          </par>
        </contents>
```

FIG. 15

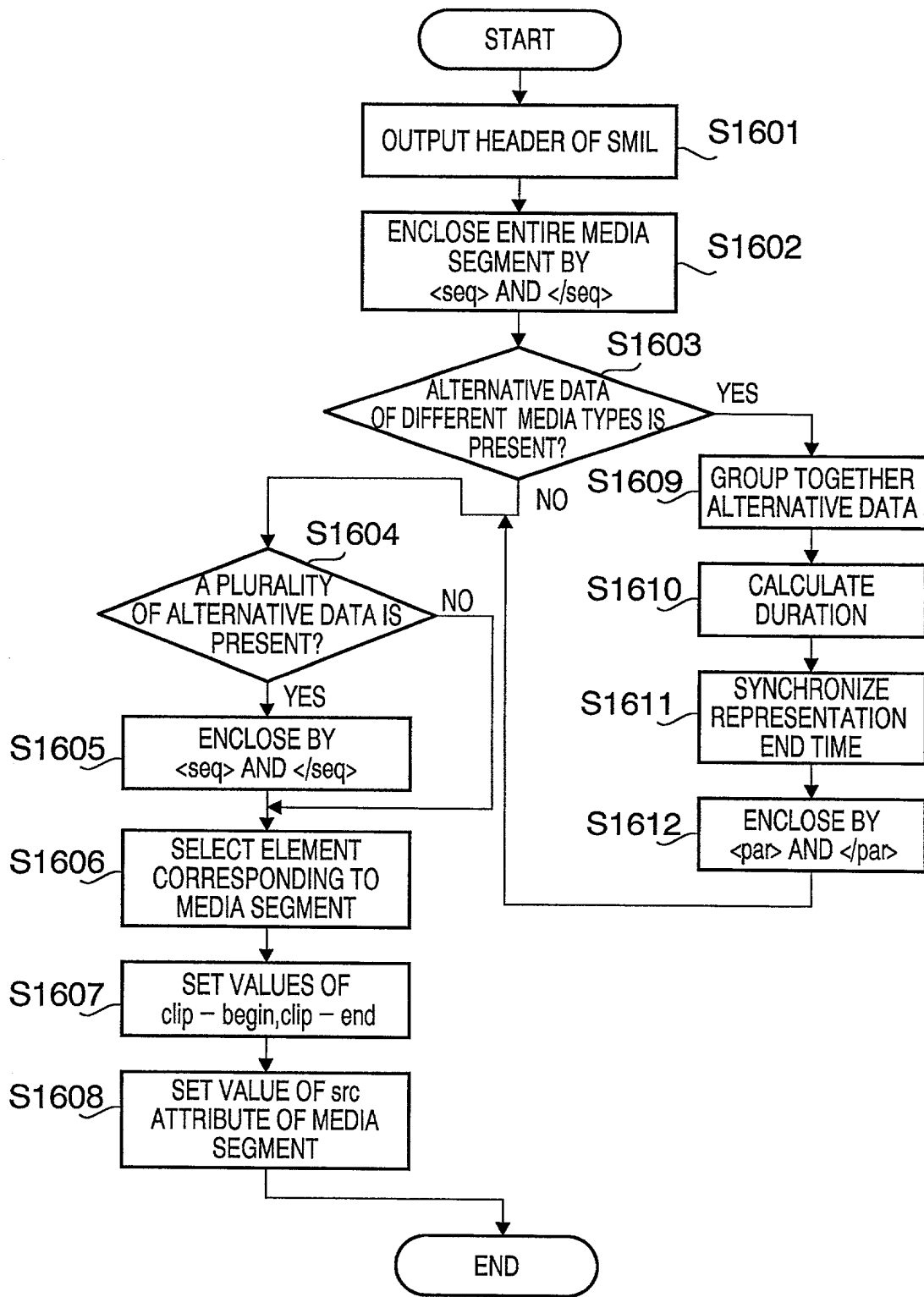


FIG. 16

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
  <par endsync="id(a0)">
    
    <audio id="a0" clip-begin="smpte=00:00:00" clip-end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a1)">
    
    <audio id="a1" clip-begin="smpte=00:01:00" clip-end="smpte=00:01:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a2)">
    
    <audio id="a2" clip-begin="smpte=00:03:00" clip-end="smpte=00:03:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a3)">
    
    <audio id="a3" clip-begin="smpte=00:04:00" clip-end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
</seq>
</body>
</smil>

```

FIG. 17



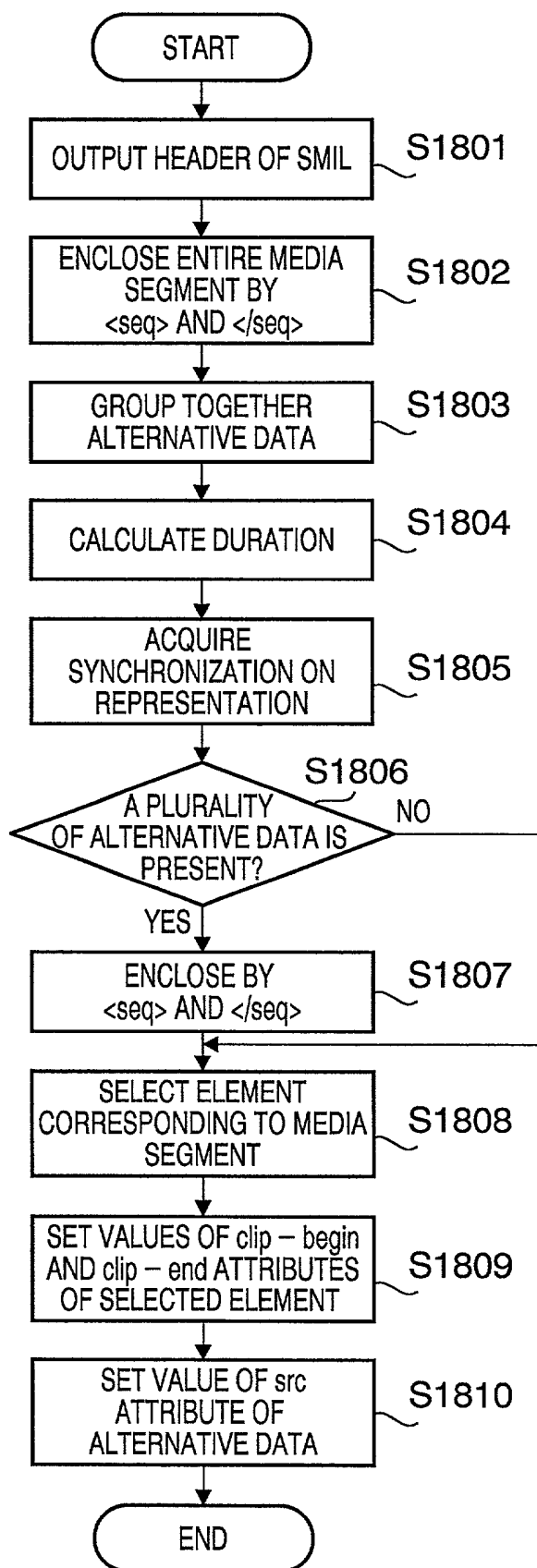


FIG. 18

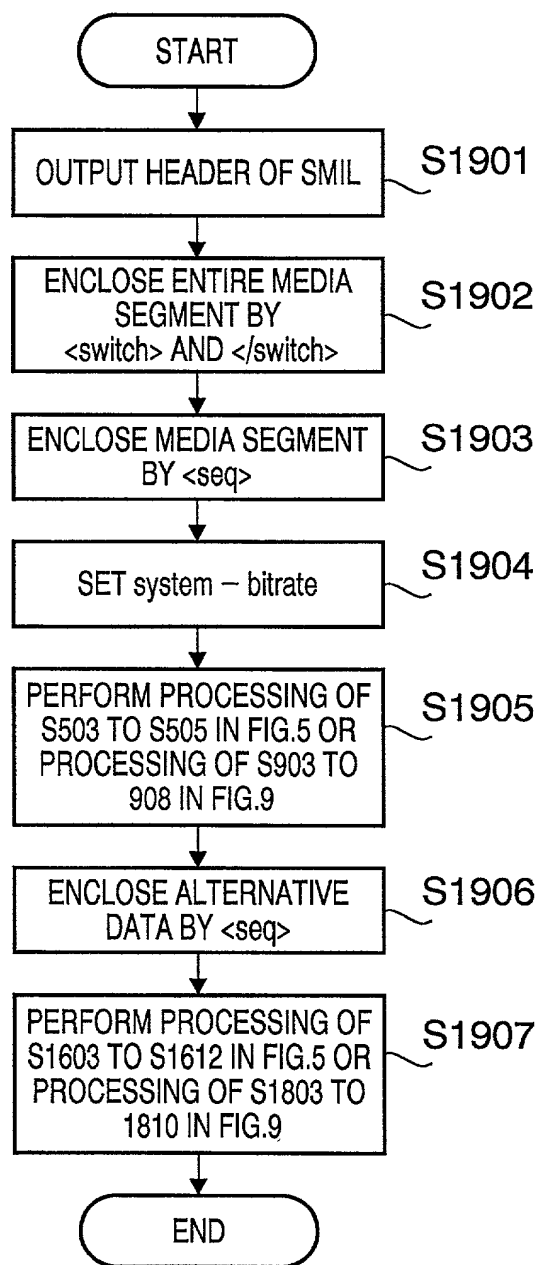


FIG. 19

# EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<switch>
  <seq system="56000">
    <ref clip="begin="smpte=00:00:00"clip-end="smpte=00:01:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
    <ref clip="begin="smpte=00:01:00"clip-end="smpte=00:02:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
    <ref clip="begin="smpte=00:03:00"clip-end="smpte=00:04:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
    <ref clip="begin="smpte=00:04:00"clip-end="smpte=00:05:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
  </seq>
  <seq>
    <par endsync="id(a0)">
      
      <audio id="a0"clip-begin="smpte=00:00:00"clip-end="smpte=00:01:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
    </par>
    <par endsync="id(a1)">
      
      <audio id="a1"clip-begin="smpte=00:01:00"clip-end="smpte=00:01:30"src="http://mserv.com/MPEG/movie0a.mpg"/>
    </par>
    <par endsync="id(a2)">
      
      <audio id="a2"clip-begin="smpte=00:03:00"clip-end="smpte=00:03:30"src="http://mserv.com/MPEG/movie0a.mpg"/>
    </par>
    <par endsync="id(a3)">
      
      <audio id="a3"clip-begin="smpte=00:04:00"clip-end="smpte=00:05:00"src="http://mserv.com/MPEG/movie0a.mpg"/>
    </par>
  </switch>
</seq>
</body>
</smil>

```

2000

2001

2002

FIG. 20

0987035.064404  
"SE022860"

DTD:  
<!ELEMENT alt (condition\*,pos?)>  
<!ATTLIST alt type %types: #REQUIRED  
format %formats; #REQUIRED  
src CDATA #REQUIRED>  
<!ELEMENT condition (#PCDATA)>

## FIG. 21A

### STRUCTURE DESCRIPTION DATA

<all typed"Image"format="jpeg"src="http://mserv.com/Image/s0.jpg">  
<condition>narrow band</condition>  
</alt>

## FIG. 21B

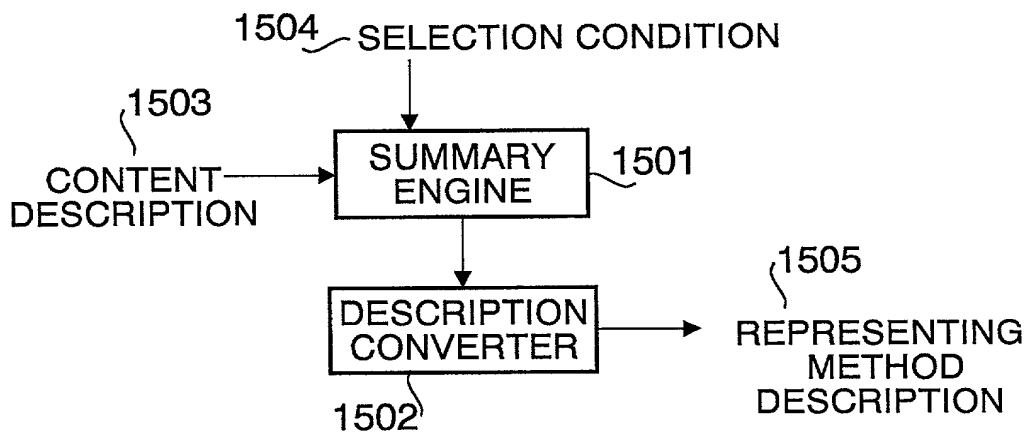


FIG. 22

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program2.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2)">

<!ELEMENT contents    (par|mediaObject)+>
<!ATTLIST contents    title CDATA #REQUIRED>
<!ELEMENT par         (mediaObject)+>
<!ELEMENT mediaObject (segment+)>
<!ATTLIST mediaObject type      %types;      "audiovideo"
                        format   %formats; #REQUIRED
                        src       CDATA #REQUIRED>

<!ELEMENT segment     EMPTY>
<!ATTLIST segment     start     CDATA #REQUIRED
                        end       CDATA #REQUIRED
                        score     NMTOKEN #REQUIRED> } 2301
  
```

FIG. 23

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <mediaObject type="audio video"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00"end="00:01:00"score="1"/>
    <segment start="00:01:00"end="00:02:00"score="3"/>
    <segment start="00:02:00"end="00:03:00"score="4"/>
    <segment start="00:03:00"end="00:04:00"score="5"/>
    <segment start="00:04:00"end="00:05:00"score="3"/>
  </mediaObject>
</contents>

```

2401

FIG. 24

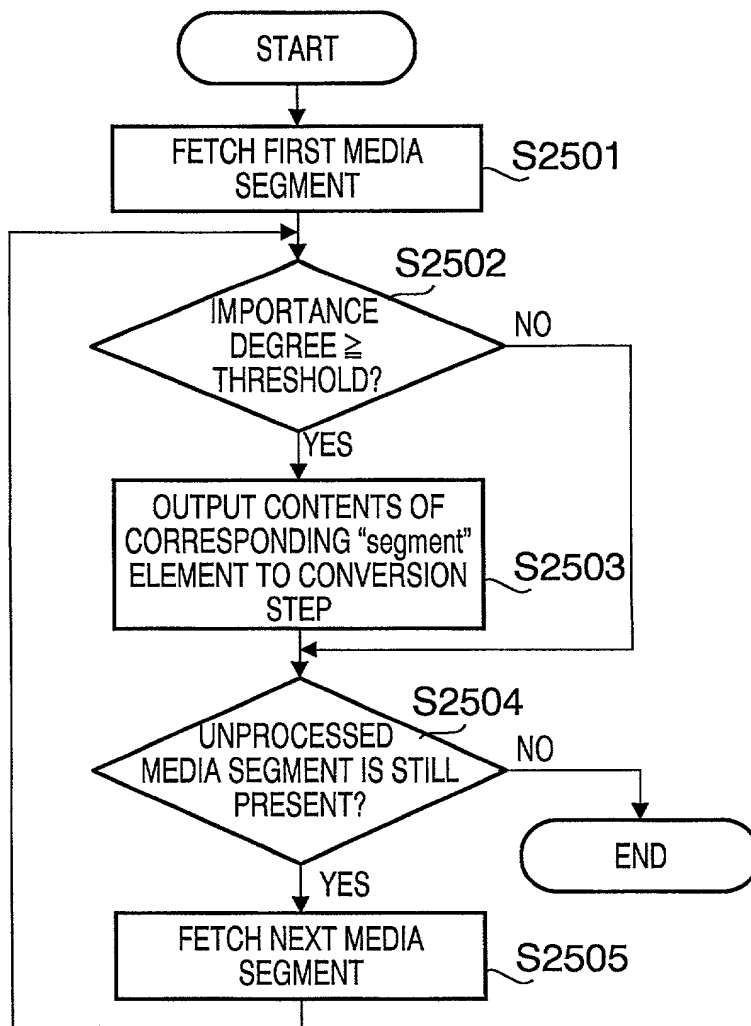


FIG. 25

# EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo" format="mpeg1" src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:02:00" end="00:03:00" score="4">
      <segment start="00:03:00" end="00:04:00" score="5">
        </mediaObject>
      </contents>
    </mediaObject>
  </contents>
```

2601

FIG. 26



# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00" end="00:01:00" score="1"/>
      <segment start="00:01:00" end="00:02:00" score="3"/>
      <segment start="00:02:00" end="00:03:00" score="4"/>
      <segment start="00:03:00" end="00:04:00" score="5"/>
      <segment start="00:04:00" end="00:05:00" score="3"/>
    </mediaObject>
    <mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00" end="00:01:00" score="1"/>
      <segment start="00:01:00" end="00:02:00" score="3"/>
      <segment start="00:02:00" end="00:03:00" score="5"/>
      <segment start="00:03:00" end="00:04:00" score="5"/>
      <segment start="00:04:00" end="00:05:00" score="3"/>
    </mediaObject>
  </par>
</contents>

```

Diagrammatic annotations in the original image:

- A bracket labeled **2701** groups the five `<segment>` elements under the first `<mediaObject type="video">` tag.
- A bracket labeled **2702** groups the five `<segment>` elements under the second `<mediaObject type="audio">` tag.
- A bracket labeled **2703** groups the five `<segment>` elements under the first `<mediaObject type="video">` tag, overlapping with bracket 2701.
- A bracket labeled **2704** groups the five `<segment>` elements under the second `<mediaObject type="audio">` tag, overlapping with bracket 2702.

FIG. 27

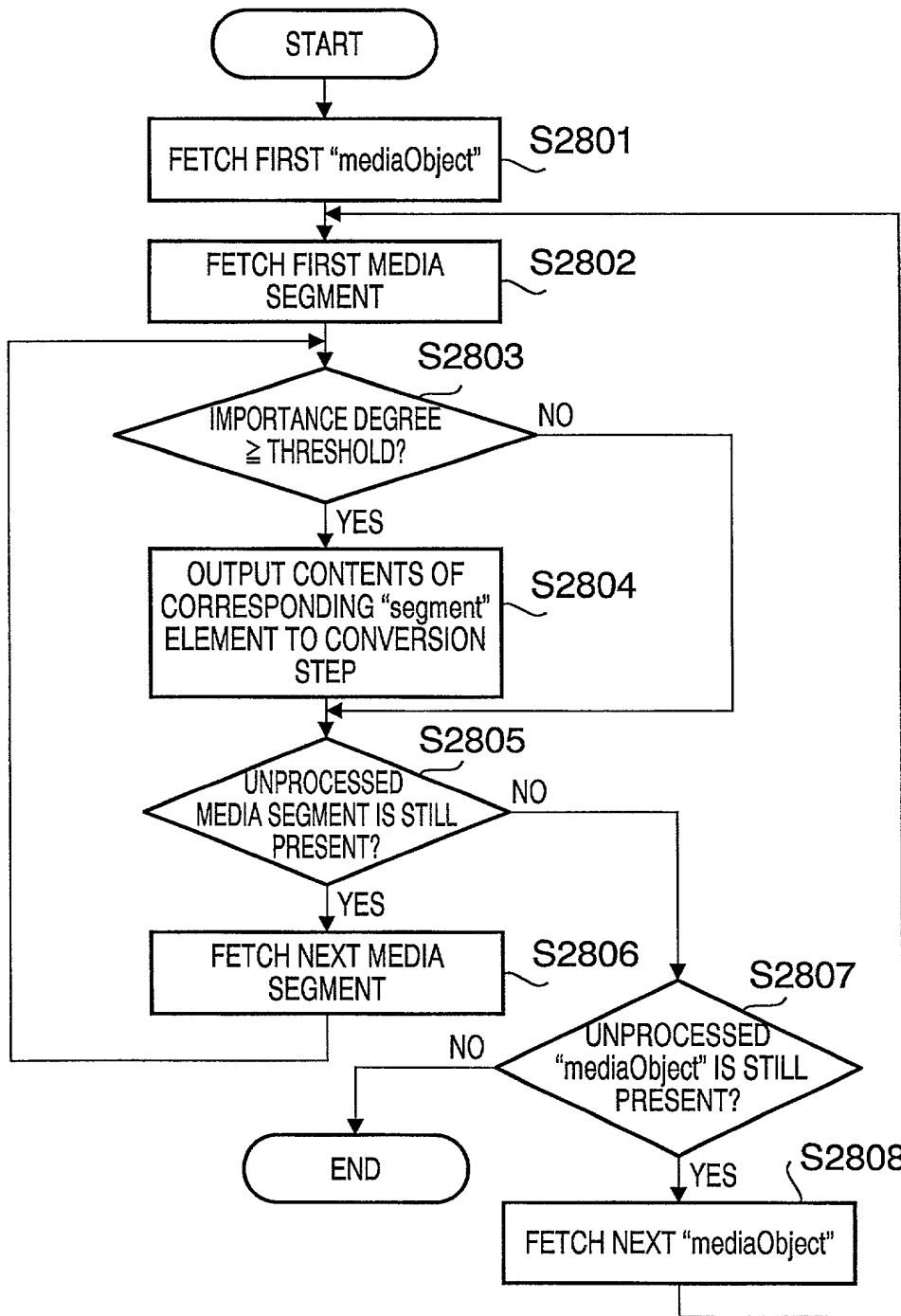


FIG. 28

EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:02:00"end="00:03:00"score="4">
        <segment start="00:03:00"end="00:04:00"score="5">
          </mediaObject>
        <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <segment start="00:02:00"end="00:03:00"score="5">
            <segment start="00:03:00"end="00:04:00"score="5">
              </mediaObject>
            </par>
          </contents>
        </mediaObject>
      </par>
    </contents>
  </par>
</contents>

```

2901

2902

FIG. 29

# EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program3.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats "(mpeg1|mpeg2)">

<!ELEMENT contents (par|mediaObject)+>
<!ATTLIST contents tite CDATA #REQUIRED>
<!ELEMENT par (mediaObject+)>
<!ELEMENT mediaObject (segment)>
<!ATTLIST mediaObject type %types; "audiovideo"
format %formats; #REQUIRED
src CDATA #REQUIRED>

<!ELEMENT segment (alt*)>
<!ATTLIST segment start CDATA #REQUIRED
end CDATA #REQUIRED
score NMTOKEN #REQUIRED> } 3001

<!ELEMENT alt (pos?)>
<!ATTLIST alt type %types; #REQUIRED
format %formats; #REQUIRED
src CDATA #REQUIRED>

<!ELEMENT pos EMPTY>
<!ATTLIST pos start CDATA #REQUIRED
end CDATA #REQUIRED>

```

FIG. 30

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00"end="00:01:00"score="1">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:00:00"end="00:01:00"/>
      </alt>
    </segment>
    <segment start="00:01:00"end="00:02:00"score="3">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:01:00"end="00:01:30"/>
      </alt>
    </segment>
    <segment start="00:02:00"end="00:03:00"score="4">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:02:00"end="00:03:00"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00"score="5">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
    <segment start="00:04:00"end="00:05:00"score="3">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:04:00"end="00:05:00"/>
      </alt>
    </segment>
  </mediaObject>
</contents>
```

FIG. 31

# EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:02:00"end="00:03:00"score="4">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:02:00"end="00:03:00"/>
        </alt>
      </segment>
    <segment start="00:03:00"end="00:04:00"score="5">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
        </alt>
      </segment>
    </mediaObject>
  </contents>

```

FIG. 32

## EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00"score="1">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg"></alt>
      </segment>
      <segment start="00:01:00"end="00:02:00"score="3">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg"></alt>
      </segment>
      <segment start="00:02:00"end="00:03:00"score="4">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg"></alt>
      </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg"></alt>
      </segment>
      <segment start="00:04:00"end="00:05:00"score="3">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg"></alt>
      </segment>
    </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00"end="00:01:00"score="1">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:00:00"end="00:01:00"/>
        </alt>
      </segment>
      <segment start="00:01:00"end="00:02:00"score="3">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:01:00"end="00:02:00"/>
        </alt>
      </segment>
      <segment start="00:02:00"end="00:03:00"score="5">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:02:00"end="00:03:00"/>
        </alt>
      </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:03:00"end="00:03:30"/>
        </alt>
      </segment>
      <segment start="00:04:00"end="00:05:00"score="3">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:04:00"end="00:05:00"/>
        </alt>
      </segment>
    </mediaObject>
  </par>
</contents>

```

FIG. 33

# EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:02:00"end="00:03:00"score="4">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
          </alt>
        </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
          </alt>
        </segment>
      </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:02:00"end="00:03:00"score="5">
        <alt type="image"format="jpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:02:00"end="00:03:00"/>
        </alt>
      </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="audio"format="jpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:03:00"end="00:03:30"/>
        </alt>
      </segment>
    </mediaObject>
  </par>
</contents>
```

FIG. 34



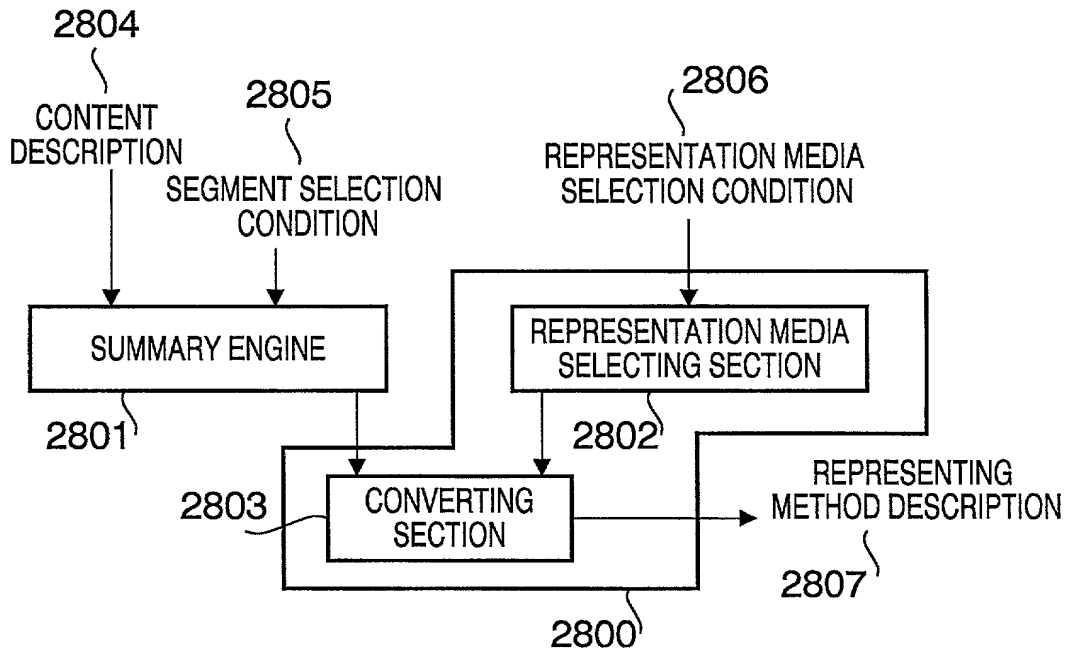


FIG. 35

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program4.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2)">

<!ELEMENT contents    (par|mediaObject)+>
<!ATTLIST contents    title CDATA #REQUIRED>
<!ELEMENT par         (mediaObject+)>
<!ELEMENT mediaObject (segment)>
<!ATTLIST mediaObject type      %types;      "audiovideo"
                        format    %formats; #REQUIRED
                        src       CDATA #REQUIRED>
<!ELEMENT segment     (pointOfView*)> }3601
<!ATTLIST segment      start    CDATA #REQUIRED
                        end      CDATA #REQUIRED>
<!ELEMENT pointOfView EMPTY>
<!ATTLIST pointOfView  viewpoint CDATA #REQUIRED
                        score     NMTOKEN #REQUIRED> }3602

```

FIG. 36

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program4.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:00:00"end="00:01:00">
      <pointOfView viewPoint="pov0"score="1"/>
      <pointOfView viewPoint="pov1"score="1"/>
    </segment>
    <segment start="00:01:00"end="00:02:00">
      <pointOfView viewPoint="pov0"score="5"/>
    </segment>
    <segment start="00:02:00"end="00:03:00">
      <pointOfView viewPoint="pov1"score="5"/>
    </segment>
    <segment start="00:03:00"end="00:04:00">
      <pointOfView viewPoint="pov0"score="3"/>
      <pointOfView viewPoint="pov1"score="4"/>
    </segment>
    <segment start="00:04:00"end="00:05:00">
      <pointOfView viewPoint="pov0"score="2"/>
    </segment>
  </mediaObject>
</contents>

```

FIG. 37

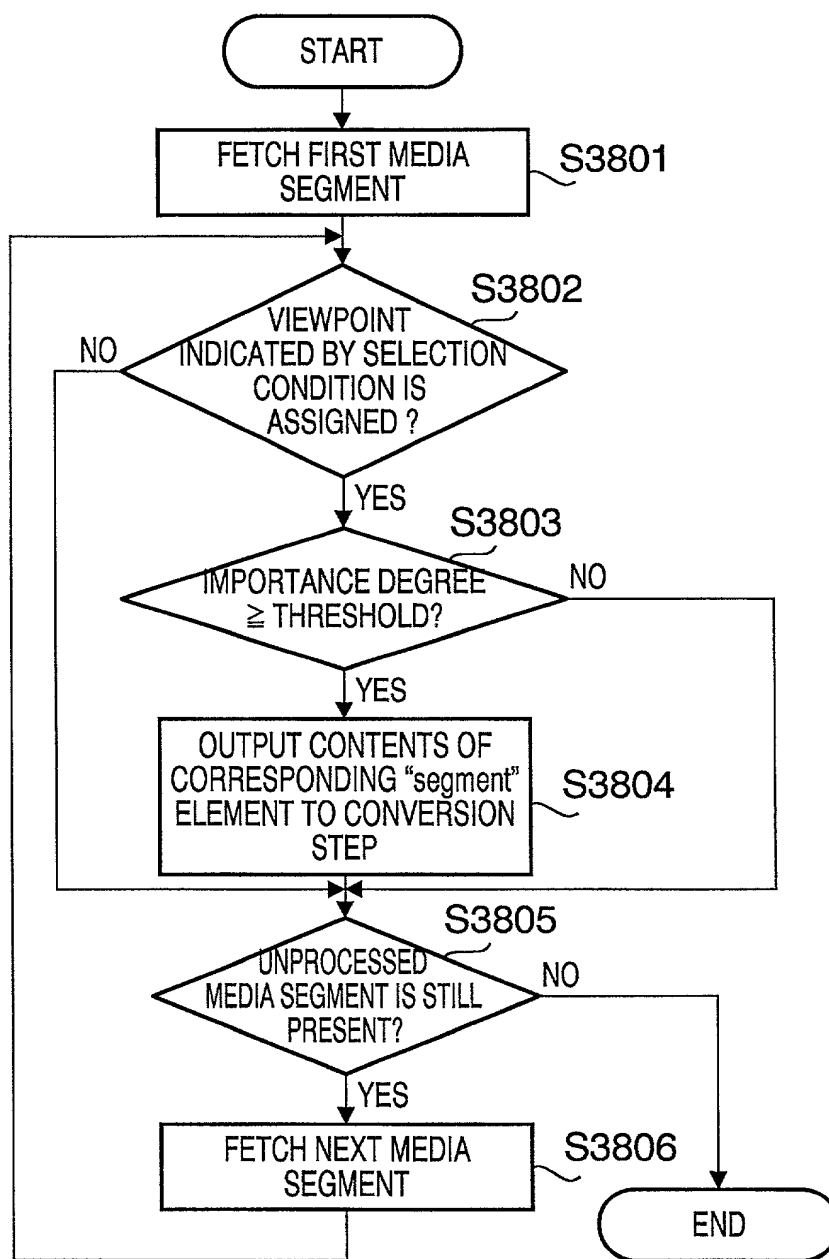


FIG. 38

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program4.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
      </segment>
      <segment start="00:01:00"end="00:02:00">
        <pointOfView viewPoint="pov0"score="5"/>
      </segment>
      <segment start="00:02:00"end="00:03:00">
        <pointOfView viewPoint="pov1"score="5"/>
      </segment>
      <segment start="00:03:00"end="00:04:00">
        <pointOfView viewPoint="pov0"score="3"/>
        <pointOfView viewPoint="pov1"score="4"/>
      </segment>
      <segment start="00:04:00"end="00:05:00">
        <pointOfView viewPoint="pov0"score="2"/>
      </segment>
    </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
      </segment>
      <segment start="00:01:00"end="00:02:00">
        <pointOfView viewPoint="pov0"score="5"/>
      </segment>
      <segment start="00:02:00"end="00:03:00">
        <pointOfView viewPoint="pov1"score="5"/>
      </segment>
      <segment start="00:03:00"end="00:04:00">
        <pointOfView viewPoint="pov0"score="3"/>
        <pointOfView viewPoint="pov1"score="3"/>
      </segment>
      <segment start="00:04:00"end="00:05:00">
        <pointOfView viewPoint="pov0"score="2"/>
      </segment>
    </mediaObject>
  </par>
</contents>
```

FIG. 39

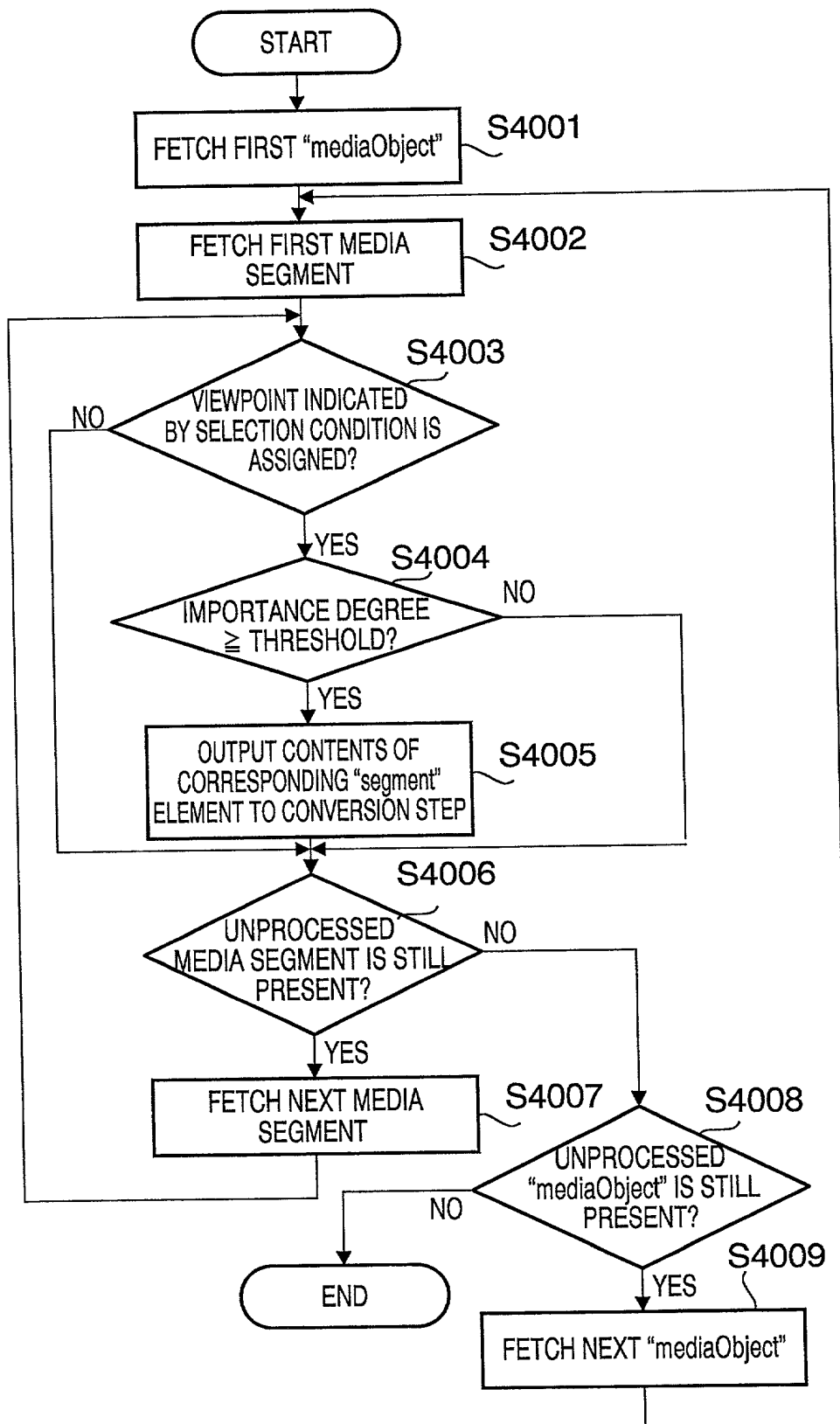


FIG. 40

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program5.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2|gif|jpeg)">

<!ELEMENT contents    (par|mediaObject)+>
<!ATTLIST contents    title CDATA #REQUIRED>
<!ELEMENT par         (mediaObject+)>
<!ELEMENT mediaObject (segment)>
<!ATTLIST mediaObject type      %types;      "audiovideo"
                        format   %formats; #REQUIRED
                        src      CDATA      #REQUIRED>

<!ELEMENT segment     (alt*)>
<!ATTLIST segment     start     CDATA      #REQUIRED
                        end      CDATA      #REQUIRED>

<!ELEMENT alt         (pointOfView*,pos?)>
<!ATTLIST alt         type      %types;      #REQUIRED
                        format   %formats; #REQUIRED
                        src      CDATA      #REQUIRED> } 4101

<!ELEMENT pointOfView EMPTY>
<!ATTLIST pointOfView viewpoint CDATA      #REQUIRED
                        score    NMTOKEN #REQUIRED>

<!ELEMENT pos         EMPTY>
<!ATTLIST pos         start     CDATA      #REQUIRED
                        end      CDATA      #REQUIRED>

```

FIG. 41

## EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml verslon="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program5.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00"end="00:01:00">
      <pointOfView viewPoint="pov0"score="1"/>
      <pointOfView viewPoint="pov1"score="1"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:00:00"end="00:01:00"/>
      </alt>
    </segment>
    <segment start="00:01:00"end="00:02:00">
      <pointOfView viewPoint="pov0"score="5"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:01:00"end="00:01:30"/>
      </alt>
    </segment>
    <segment start="00:02:00"end="00:03:00">
      <pointOfView viewPoint="pov1"score="5"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:02:00"end="00:03:00"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00">
      <pointOfView viewPoint="pov0"score="3"/>
      <pointOfView viewPoint="pov1"score="4"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
    <segment start="00:04:00"end="00:05:00">
      <pointOfView viewPoint="pov0"score="2"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:04:00"end="00:05:00"/>
      </alt>
    </segment>
  </mediaObject>
</contents>
```

FIG. 42

# EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program5.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s0.jpg">
          </alt>
        </segment>
        <segment start="00:01:00"end="00:02:00">
          <pointOfView viewPoint="pov0"score="5"/>
          <alt type="image"format="jpeg"src="http://mserv.com/image/s1.jpg">
            </alt>
          </segment>
          <segment start="00:02:00"end="00:03:00">
            <pointOfView viewPoint="pov1"score="5"/>
            <alt type="image"format="jpeg"src="http://mserv.com/image/s2.jpg">
              </alt>
            </segment>
            <segment start="00:03:00"end="00:04:00">
              <pointOfView viewPoint="pov0"score="3"/>
              <pointOfView viewPoint="pov1"score="4"/>
              <alt type="image"format="jpeg"src="http://mserv.com/image/s3.jpg">
                </alt>
              </segment>
              <segment start="00:04:00"end="00:05:00">
                <pointOfView viewPoint="pov0"score="2"/>
                <alt type="image"format="jpeg"src="http://mserv.com/image/s4.jpg">
                  </alt>
                </segment>
              </mediaObject>

```

FIG. 43



```

<mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
  <segment start="00:00:00" end="00:01:00" score="1">
    <pointOfView viewPoint="pov0" score="1"/>
    <pointOfView viewPoint="pov1" score="1"/>
    <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:00:00" end="00:01:00"/>
    </alt>
  </segment>
  <segment start="00:01:00" end="00:02:00">
    <pointOfView viewPoint="pov0" score="5"/>
    <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:01:00" end="00:02:00"/>
    </alt>
  </segment>
  <segment start="00:02:00" end="00:03:00">
    <pointOfView viewPoint="pov1" score="5"/>
    <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:02:00" end="00:03:00"/>
    </alt>
  </segment>
  <segment start="00:03:00" end="00:04:00">
    <pointOfView viewPoint="pov0" score="3"/>
    <pointOfView viewPoint="pov1" score="3"/>
    <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:03:00" end="00:03:30"/>
    </alt>
  </segment>
  <segment start="00:04:00" end="00:05:00">
    <pointOfView viewPoint="pov0" score="2"/>
    <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:04:00" end="00:05:00"/>
    </alt>
  </segment>
</mediaObject>
</par>
</contents>

```

FIG. 44

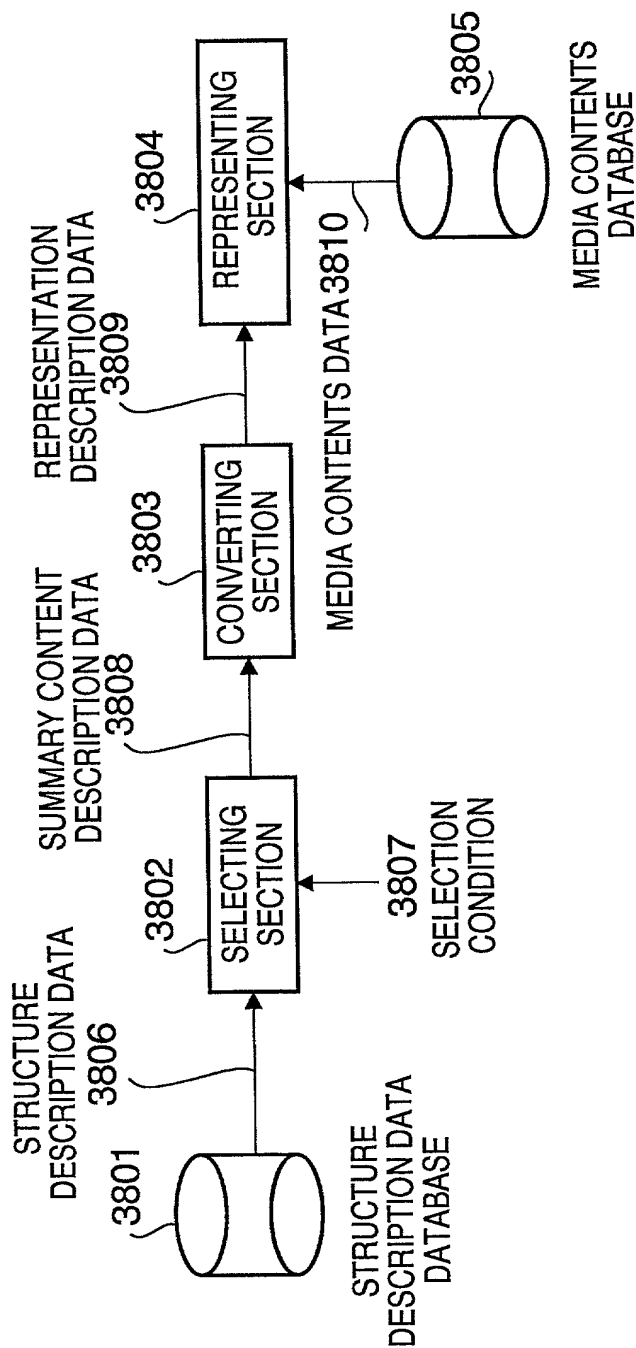


FIG. 45

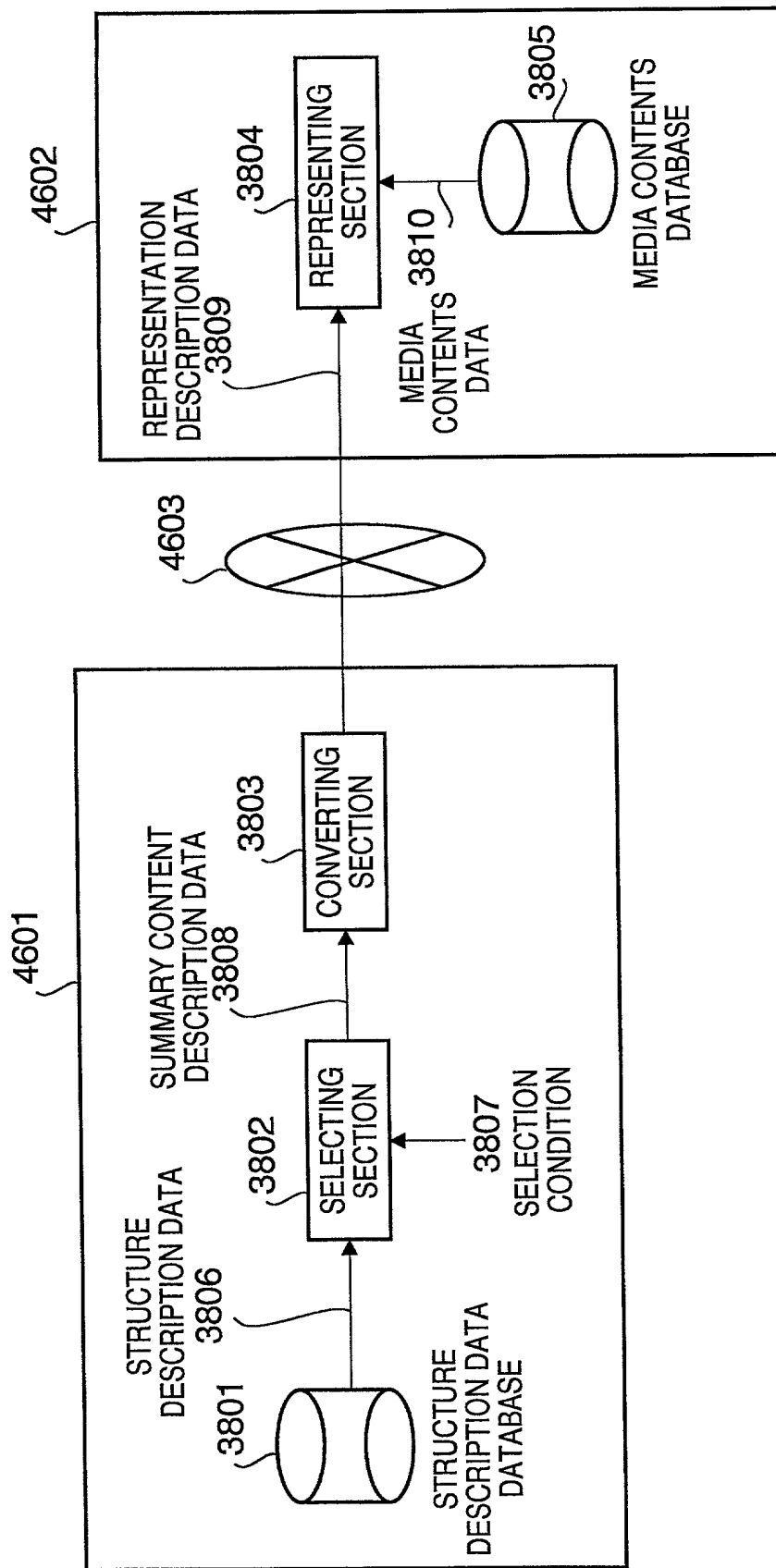


FIG. 46

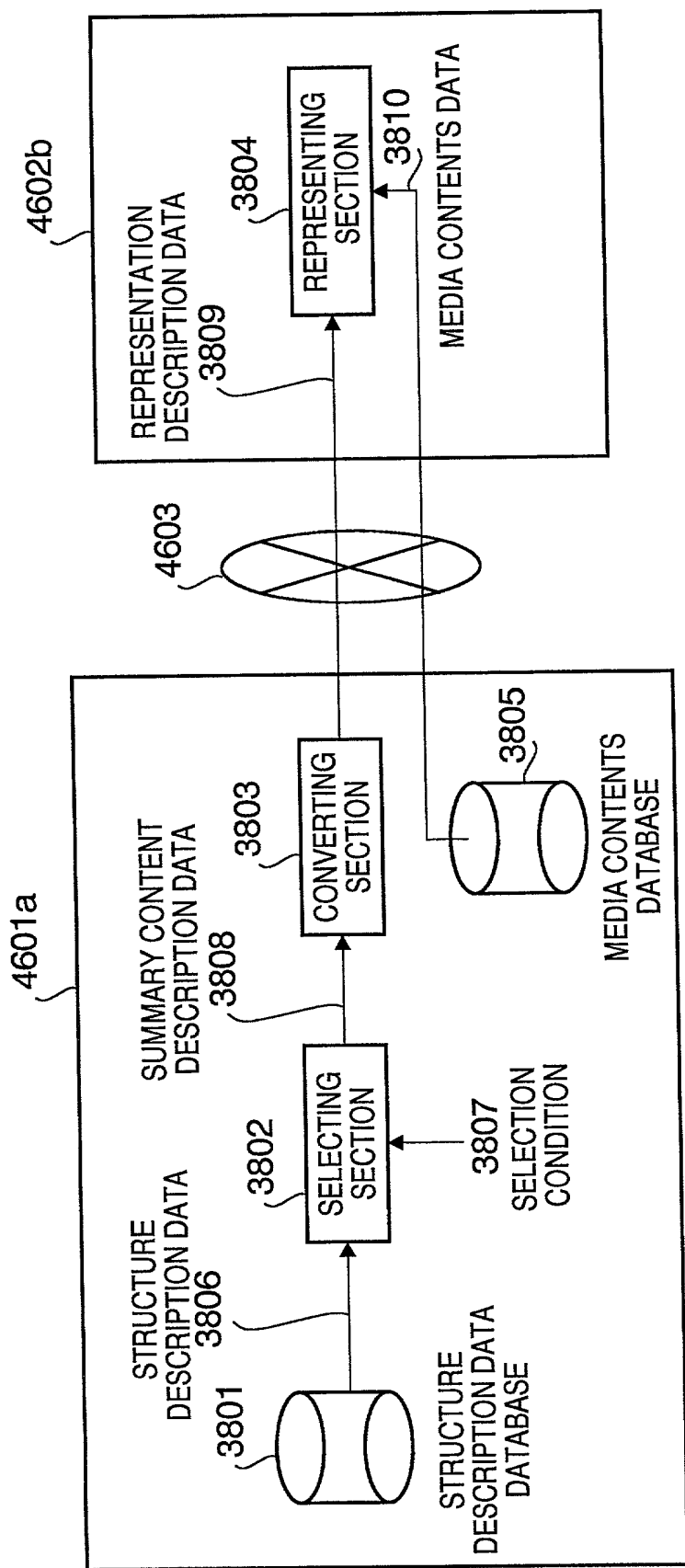


FIG. 47

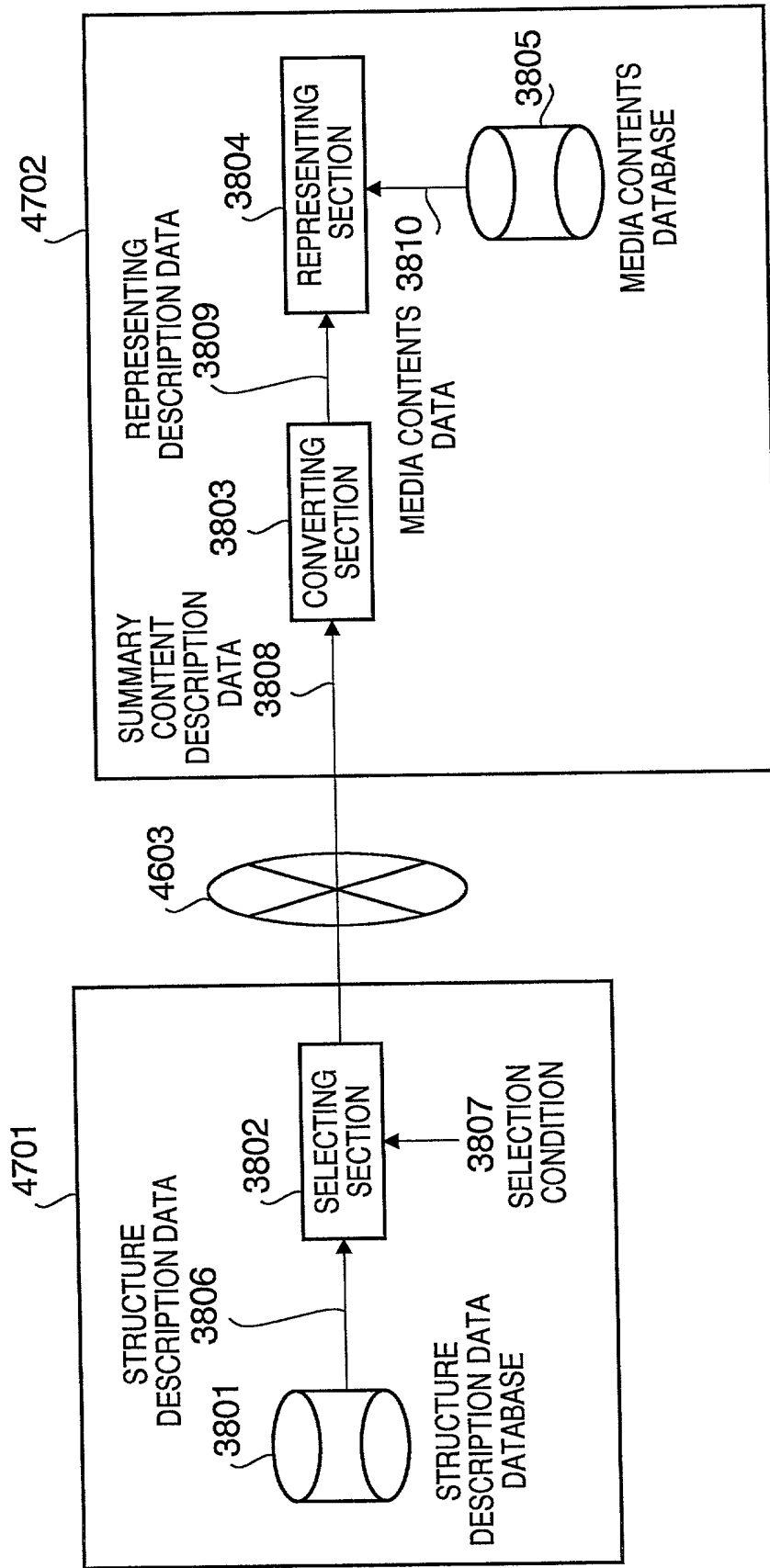


FIG. 48

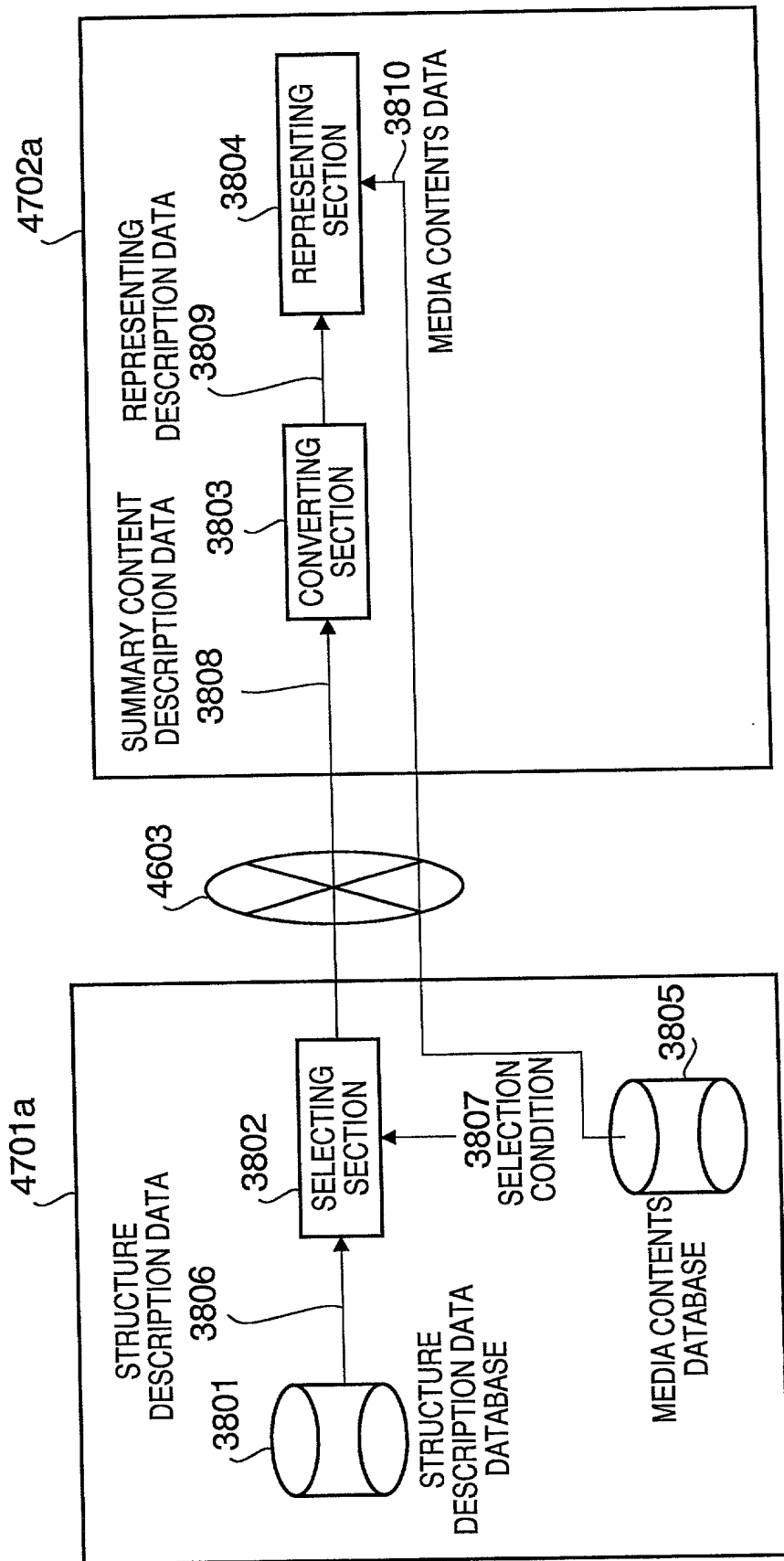


FIG. 49

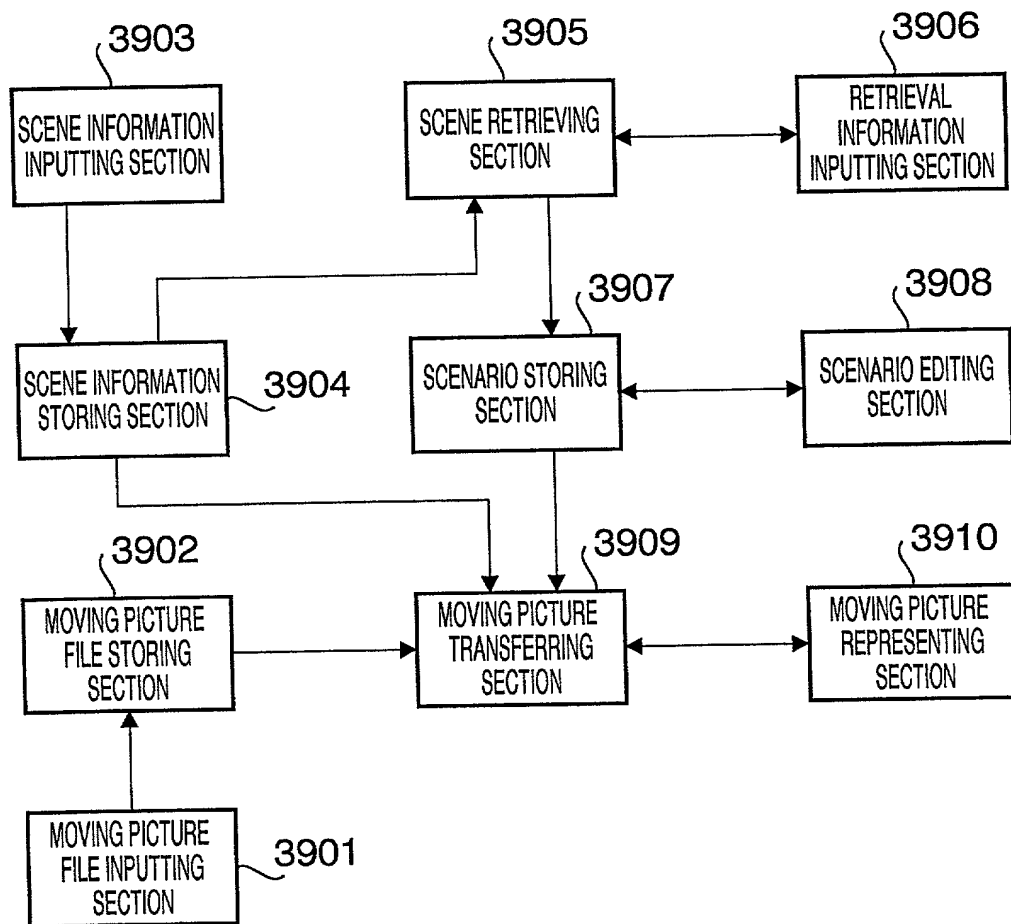


FIG. 50